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Endovascular treatment of complex aortic injuries 40 years after surgery for aortic coarctation

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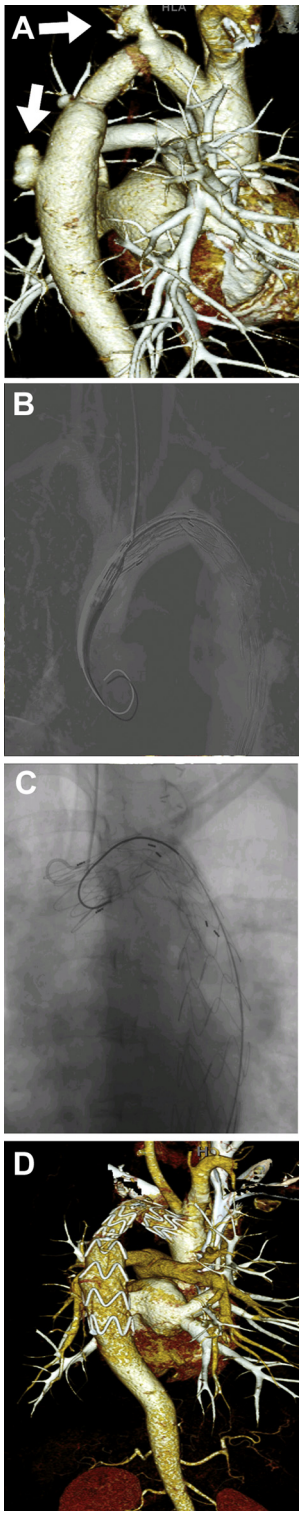
We describe the case of a 57-year-old woman suffering from systemic hypertension and thoracic pain who was operated on for aortic coarctation at the age of 16 years. Computed tomography angiography showed a pseudoaneurysm of the thoracic aorta at the level of the distal anastomosis of the previously implanted Dacron vascular graft, a penetrating ulcer of the descending thoracic aorta (distal from the graft), and an aneurysm of the left subclavian artery presumably at the level of the vascular clamp position during previous surgery (*A*). A custom-made endoprosthesis (Bolton Medical Products, Shrewsbury, Mass) with a proximal diameter of 22 mm, waist diameter of 18 mm, and distal diameter of 30 mm and a covered length of 170 mm was designed to perfectly fit within the previously implanted surgical Dacron vascular graft of 16 mm in diameter. The patient underwent surgical left carotid-subclavian bypass grafting with reimplantation of the left vertebral artery during the time needed to manufacture the custom-made device. Subsequently, the endovascular procedure was performed in a hybrid operating room with proper positioning (*B*) and release (*C*) of the custom-made endoprosthesis. The postoperative course was uneventful with discharge home after 5 days. Computed tomography angiography performed after 1 month confirmed a good result and exclusion of all aneurysms (*D*).



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